

April 20, 2015

Jennifer L. Carr, P.E., C.E.M.,  
Chief, Bureau of Safe Drinking Water  
Nevada Division of Environmental Protection  
901 South Stewart, Suite 4001  
Carson City, NV 89701

Dear Ms. Carr,

Enclosed you will find the Water Treatment and Water Distribution Summary Reports for the certification examinations that took place on March 20, 2015 at various sites throughout the State.

The individual results have been sent in a separate email to you and Max Sosa. Should you have any questions or need further information, please contact me at 909.291.2100 or by email [genriquez@ca-nv-awwa.org](mailto:genriquez@ca-nv-awwa.org). You are also welcome to contact Steven Garner, Certification Manager at 916.889.8465 or by email [sgarner@ca-nv-awwa.org](mailto:sgarner@ca-nv-awwa.org).

Sincerely,



Gina Enriquez  
Certification Specialist  
CA-NV AWWA

cc: Max Sosa  
Susan Bunch  
Darrin Price  
Will Raymond  
Steven Garner

## **Examination Summary Reports**

### **March 2015 Examinations**

Prepared for  
Bureau of Safe Drinking Water, Nevada Division of Environmental Protection

Prepared By  
California – Nevada Section of the American Water Works Association  
April 20, 2015

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## Overall Exam Results

### Exam Analysis Pass/Failure Rate

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#### Water Distribution - Entire State:

49 Passed the Exam  
21 Failed the Exam

#### Water Treatment - Entire State:

20 Passed the Exam  
12 Failed the Exam

#### By Region:

##### Northern NV: 46 Testers

Passing Rate of 70%  
Failure Rate of 30%

##### Southern NV: 24 Testers

Passing Rate of 71%  
Failure Rate of 29%

#### By Region:

##### Northern NV: 20 Testers

Passing Rate of 60%  
Failure Rate of 40%

##### Southern NV: 12 Testers

Passing Rate of 67%  
Failure Rate of 33%

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## Analysis Pass/Failure Rate

### by Grade Level/Discipline

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#### Water Distribution - Entire State:

49 Passed the Exam  
21 Failed the Exam

#### Water Treatment - Entire State:

20 Passed the Exam  
12 Failed the Exam

#### By Discipline Pass/Failure:

##### Distribution Grade 1 (D1)

25 Passed  
06 Failed

##### Distribution Grade 2 (D2)

14 Passed  
08 Failed

##### Distribution Grade 3 (D3)

09 Passed  
06 Failed

##### Distribution Grade 4 (D4)

01 Passed  
01 Failed

#### By Discipline Pass/Failure:

##### Treatment Grade 1 (T1)

10 Passed  
05 Failed

##### Treatment Grade 2 (T2)

04 Passed  
06 Failed

##### Treatment Grade 3 (T3)

04 Passed  
01 Failed

##### Treatment Grade 4 (T4)

02 Passed  
00 Failed

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## **DISTRIBUTION OPERATOR CERTIFICATION**

**The Topics Identified Below Had a "Partial Mastering" Rate of More Than 20%**

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### **Grade I – Distribution**

- Monitor, Evaluate & Adjust Disinfection
- Comply w/Drinking Water Regulations
- Evaluate & Maintain Equipment
- Install Equipment
- System Inspection

### **Grade II – Distribution**

- Perform Security, Safety & Admin
- Comply w/Drinking Water Regulations
- Evaluate & Maintain Equipment
- Install Equipment
- Monitor, Evaluate & Adjust Disinfection
- Operate Equipment
- System Design

### **Grade III – Distribution**

- Install Equipment
- Monitor, Evaluate & Adjust Disinfection
- Operate Equipment
- Perform Security, Safety & Admin
- Comply w/Drinking Water Regulations
- Evaluate & Maintain Equipment
- System Design
- System Inspection
- Water Quality Parameters & Sampling

### **Grade IV – Distribution**

- Perform Security, Safety & Admin+
- Comply w/Drinking Water Regulations
- Install Equipment
- Operate Equipment
- System Design
- Water Quality Parameters & Sampling

## **Treatment Operator Certification**

**The Topics Identified Below Had a "Partial Mastering" Rate of More Than 20%**

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### **Grade I – Treatment**

- Laboratory Analyses
- Comply w/Drinking Water Regulations
- Operate & Maintain Equipment
- Monitor, Evaluate & Adjust Treatment

### **Grade II – Treatment**

- Laboratory Analyses
- Comply w/Drinking Water Regulations
- Operate & Maintain Equipment
- Monitor, Evaluate & Adjust Treatment
- Perform Security, Safety & Administration

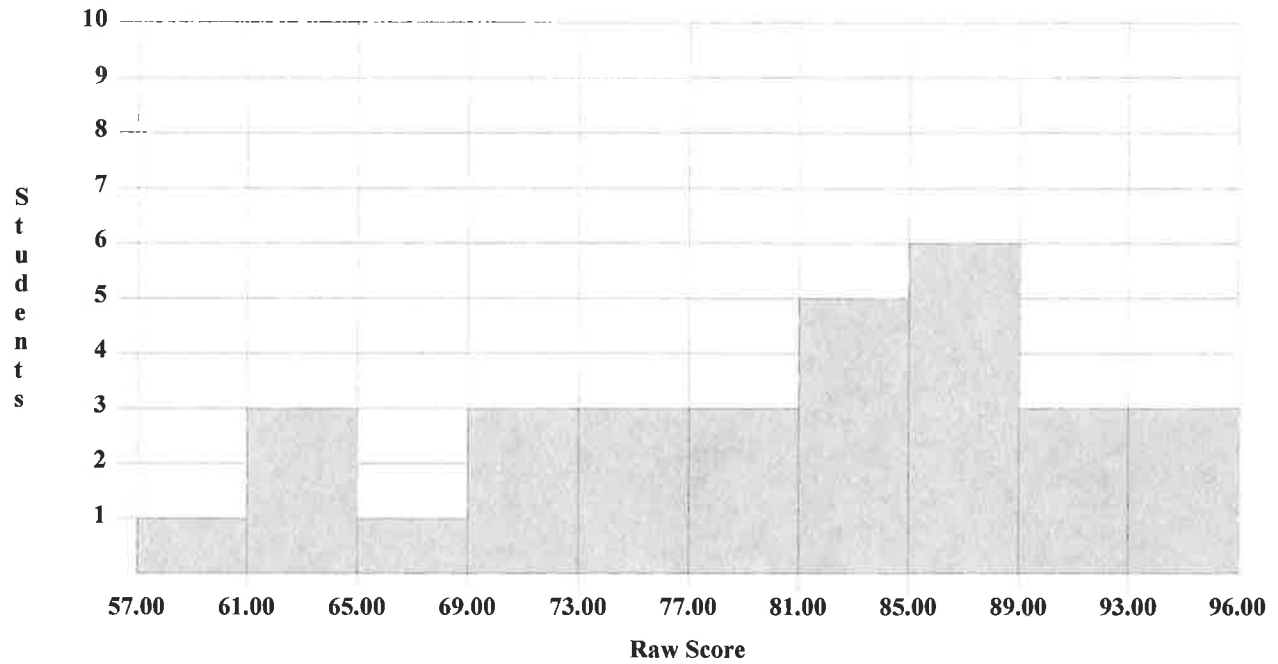
### **Grade III – Treatment**

- Perform Security, Safety & Administration
- Operate & Maintain Equipment

### **Grade IV – Treatment**

- Monitor, Evaluate & Adjust Treatment
- Perform Security, Safety & Administration

**TEST STATISTICS REPORT**  
 California-Nevada Water Distribution Grade I Exam  
 DCN0812S



Test Name:	DCE0812S	
Test Date:	11/4/2007	
Number of Examinees:	31	
Number of Items:	100	
Maximum Possible Points:	100.00	
Highest Score:	96.00	(96.00)
Lowest Score:	57.00	(57.00)
Median:	81.00	(81.00)
Mean:	79.68	(79.68)
Standard Deviation:	10.54	
Test Reliability:	0.88	
Standard Error of Measurement:	3.63	

**MASTERY SUMMARY REPORT**  
California-Nevada Water Distribution Grade I

Test Series: DCN0812S

Version: 0

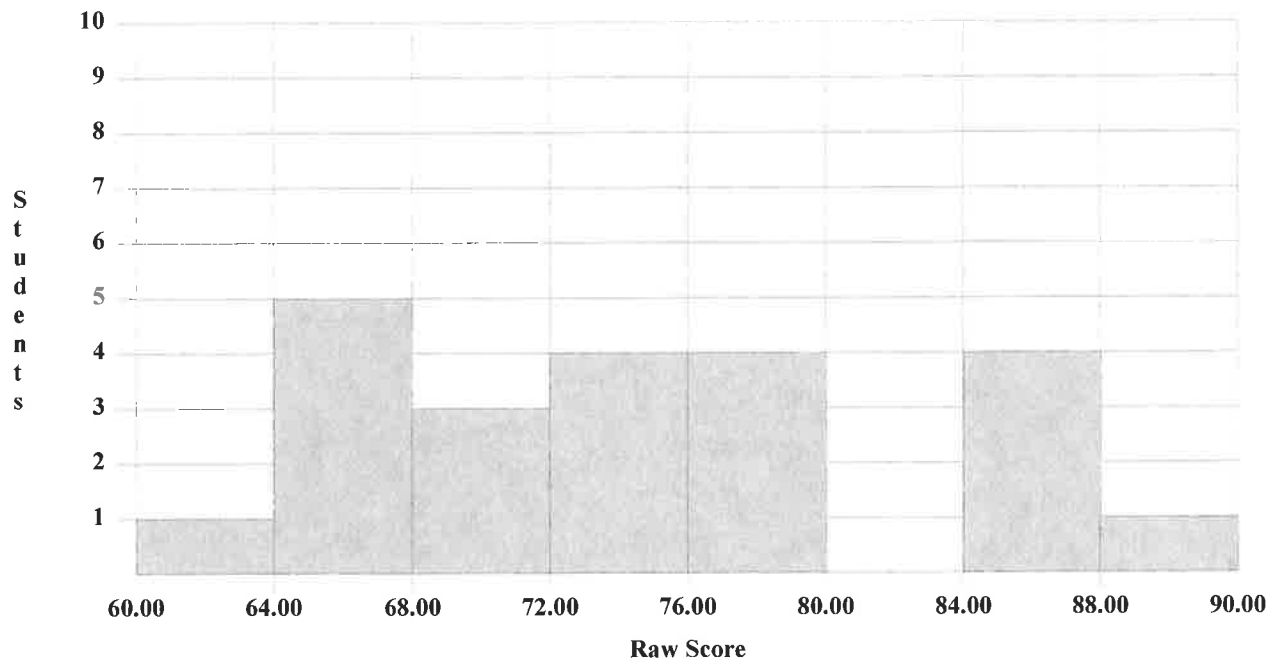
Scoring Date: 3/30/2015

Candidates: 31

# M	Number Mastering	% M	% Mastering			PTS	Possible Points			
# PM	Number Partial Mastering	% PM	% Partial Mastering			HIGH	Highest Points			
# NM	Number Not Mastering	% NM	% Not Mastering			LOW	Lowest Points			
						AVG	Average Points			
Objective	# M	# PM	# NM	% M	% PM	% NM	PTS	HIGH	LOW	AVG
Perform Security, Safety, & Admin	26	5	0	83.87	16.13	0.00	15.00	15.00	9.00	12.19
Comply w/ Drinking Water Regulations	20	10	1	64.52	32.26	3.23	10.00	10.00	3.00	7.39
Evaluate & Maintain Equipment	16	14	1	51.61	45.16	3.23	14.00	14.00	5.00	9.97
Install Equipment	24	7	0	77.42	22.58	0.00	11.00	11.00	5.00	8.97
Monitor, Eval, & Adjust Disinfection	17	13	1	54.84	41.94	3.23	5.00	5.00	1.00	3.55
Operate Equipment	30	1	0	96.77	3.23	0.00	15.00	15.00	10.00	13.29
System Design	26	5	0	83.87	16.13	0.00	10.00	10.00	4.00	7.97
System Inspection	18	12	1	58.06	38.71	3.23	5.00	5.00	1.00	3.71
Water Quality Parameters & Sampling	27	4	0	87.10	12.90	0.00	15.00	15.00	9.00	12.65



**TEST STATISTICS REPORT**  
 California-Nevada Water Distribution Grade II Exam  
 DCN0822S



Test Name:	DCE0822S	
Test Date:	11/1/2007	
Number of Examinees:	22	
Number of Items:	100	
Maximum Possible Points:	100.00	
Highest Score:	90.00	(90.00)
Lowest Score:	60.00	(60.00)
Median:	73.00	(73.00)
Mean:	73.77	(73.77)
Standard Deviation:	8.52	
Test Reliability:	0.79	
Standard Error of Measurement:	3.91	

**MASTERY SUMMARY REPORT**  
California-Nevada Water Distribution Grade II

Test Series: DCN0822S

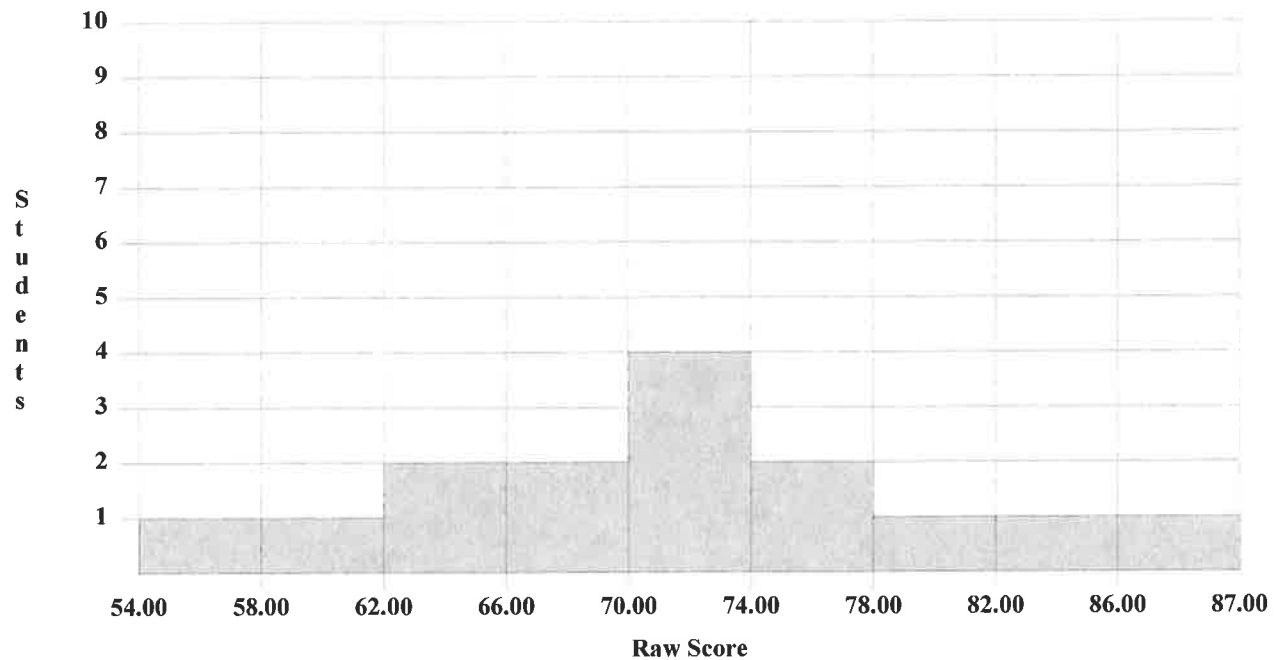
Version: 0

Scoring Date: 3/30/2015

Candidates: 22

# M	Number Mastering	% M	% Mastering		PTS	Possible Points				
# PM	Number Partial Mastering	% PM	% Partial Mastering		HIGH	Highest Points				
# NM	Number Not Mastering	% NM	% Not Mastering		LOW	Lowest Points				
					AVG	Average Points				
Objective	# M	# PM	# NM	% M	% PM	% NM	PTS	HIGH	LOW	AVG
Perform Security, Safety, & Admin	12	9	1	54.55	40.91	4.55	15.00	13.00	5.00	10.55
Comply w/ Drinking Water Regulations	10	12	0	45.45	54.55	0.00	10.00	9.00	4.00	6.55
Evaluate & Maintain Equipment	14	8	0	63.64	36.36	0.00	12.00	12.00	6.00	9.09
Install Equipment	14	8	0	63.64	36.36	0.00	9.00	9.00	4.00	7.05
Monitor, Eval, & Adjust Disinfection	7	11	4	31.82	50.00	18.18	5.00	5.00	1.00	2.77
Operate Equipment	14	8	0	63.64	36.36	0.00	16.00	16.00	10.00	12.50
System Design	8	12	2	36.36	54.55	9.09	13.00	13.00	3.00	8.91
System Inspection	21	1	0	95.45	4.55	0.00	5.00	5.00	3.00	4.36
Water Quality Parameters & Sampling	18	4	0	81.82	18.18	0.00	15.00	14.00	7.00	12.00

**TEST STATISTICS REPORT**  
 California-Nevada Water Distribution Grade III Exam  
 DCN0832S



<b>Test Name:</b>	<b>DCE0832S</b>	
<b>Test Date:</b>	<b>10/17/2007</b>	
<b>Number of Examinees:</b>	<b>15</b>	
<b>Number of Items:</b>	<b>100</b>	
<b>Maximum Possible Points:</b>	<b>100.00</b>	
<b>Highest Score:</b>	<b>87.00</b>	<b>(87.00)</b>
<b>Lowest Score:</b>	<b>54.00</b>	<b>(54.00)</b>
<b>Median:</b>	<b>72.00</b>	<b>(72.00)</b>
<b>Mean:</b>	<b>71.07</b>	<b>(71.07)</b>
<b>Standard Deviation:</b>	<b>8.83</b>	
<b>Test Reliability:</b>	<b>0.79</b>	
<b>Standard Error of Measurement:</b>	<b>4.00</b>	

**MASTERY SUMMARY REPORT**  
California-Nevada Water Distribution Grade III

Test Series: DCN0832S

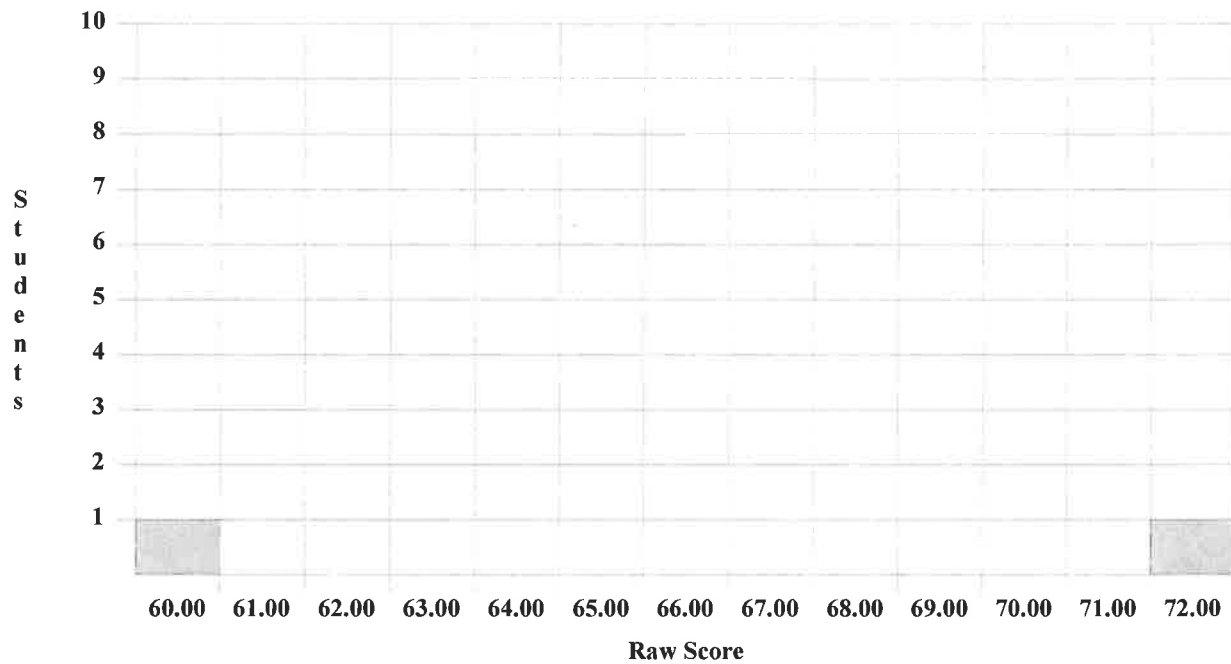
Version: 0

Scoring Date: 3/30/2015

Candidates: 15

# M	Number Mastering	% M	% Mastering			PTS	Possible Points			
# PM	Number Partial Mastering	% PM	% Partial Mastering			HIGH	Highest Points			
# NM	Number Not Mastering	% NM	% Not Mastering			LOW	Lowest Points			
						AVG	Average Points			
Objective	# M	# PM	# NM	% M	% PM	% NM	PTS	HIGH	LOW	AVG
Perform Security, Safety, & Admin	11	4	0	73.33	26.67	0.00	20.00	19.00	12.00	14.87
Comply w/ Drinking Water Regulations	5	10	0	33.33	66.67	0.00	10.00	9.00	4.00	6.13
Evaluate & Maintain Equipment	8	7	0	53.33	46.67	0.00	7.00	7.00	3.00	4.67
Install Equipment	8	7	0	53.33	46.67	0.00	9.00	9.00	5.00	6.87
Monitor, Eval, & Adjust Disinfection	7	7	1	46.67	46.67	6.67	5.00	5.00	1.00	3.47
Operate Equipment	6	9	0	40.00	60.00	0.00	16.00	15.00	9.00	11.07
System Design	6	9	0	40.00	60.00	0.00	13.00	13.00	6.00	9.00
System Inspection	2	10	3	13.33	66.67	20.00	5.00	5.00	0.00	2.60
Water Quality Parameters & Sampling	11	4	0	73.33	26.67	0.00	15.00	15.00	9.00	12.40

**TEST STATISTICS REPORT**  
 California-Nevada Water Distribution Grade IV Exam  
 DCN0842S



<b>Test Name:</b>	<b>DCE0842S</b>
<b>Test Date:</b>	<b>10/17/2007</b>
<b>Number of Examinees:</b>	<b>2</b>
<b>Number of Items:</b>	<b>100</b>
<b>Maximum Possible Points:</b>	<b>100.00</b>
<b>Highest Score:</b>	<b>72.00 (72.00)</b>
<b>Lowest Score:</b>	<b>60.00 (60.00)</b>
<b>Median:</b>	<b>66.00 (66.00)</b>
<b>Mean:</b>	<b>66.00 (66.00)</b>
<b>Standard Deviation:</b>	<b>8.49</b>
<b>Test Reliability:</b>	<b>0.73</b>
<b>Standard Error of Measurement:</b>	<b>4.41</b>

**MASTERY SUMMARY REPORT**  
California-Nevada Water Distribution Grade IV

Test Series: DCN0842S

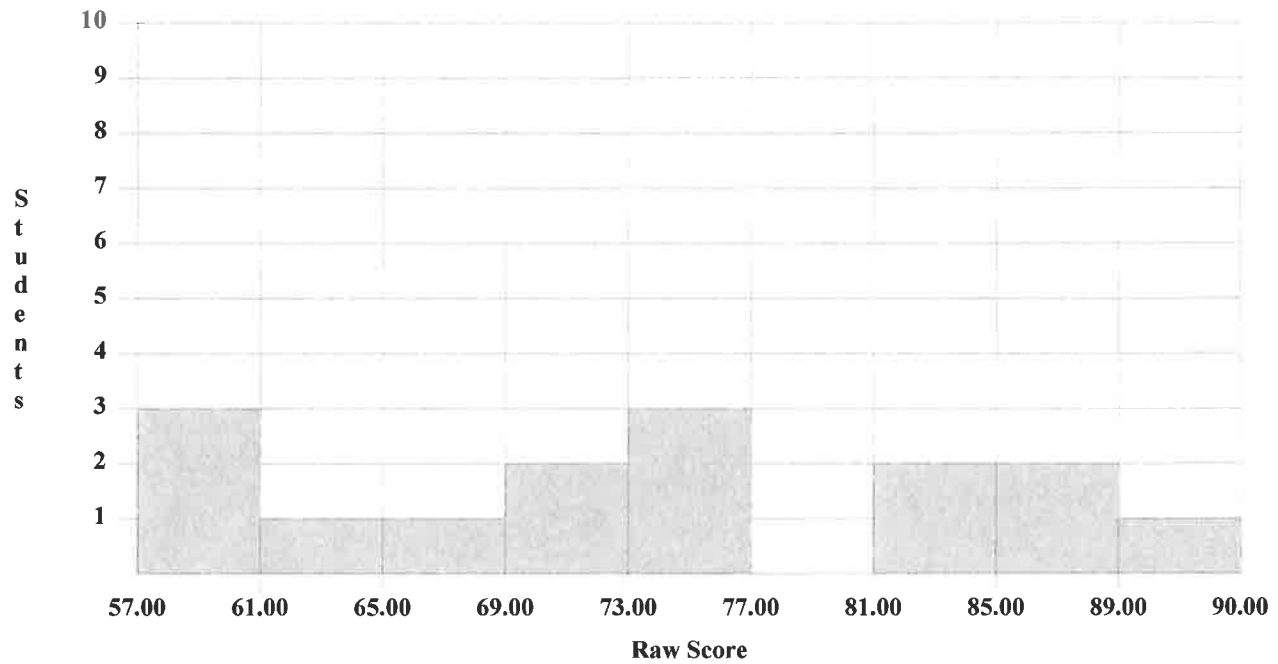
Version: 0

Scoring Date: 3/30/2015

Candidates: 2

# M	Number Mastering	% M	% Mastering		PTS	Possible Points				
# PM	Number Partial Mastering	% PM	% Partial Mastering		HIGH	Highest Points				
# NM	Number Not Mastering	% NM	% Not Mastering		LOW	Lowest Points				
					AVG	Average Points				
Objective	# M	# PM	# NM	% M	% PM	% NM	PTS	HIGH	LOW	AVG
Perform Security, Safety, & Admin	1	1	0	50.00	50.00	0.00	20.00	17.00	13.00	15.00
Comply w/ Drinking Water Regulations	0	2	0	0.00	100.00	0.00	10.00	6.00	6.00	6.00
Install Equipment	0	2	0	0.00	100.00	0.00	9.00	5.00	4.00	4.50
Evaluate & Maintain Equipment	2	0	0	100.00	0.00	0.00	5.00	4.00	4.00	4.00
Monitor, Eval, & Adjust Disinfection	2	0	0	100.00	0.00	0.00	5.00	5.00	5.00	5.00
Operate Equipment	0	1	1	0.00	50.00	50.00	16.00	11.00	5.00	8.00
System Design	1	1	0	50.00	50.00	0.00	15.00	12.00	10.00	11.00
System Inspection	1	1	0	50.00	50.00	0.00	5.00	4.00	3.00	3.50
Water Quality Parameters & Sampling	1	1	0	50.00	50.00	0.00	15.00	11.00	7.00	9.00

**TEST STATISTICS REPORT**  
 California-Nevada Water Treatment Grade I Exam  
 WCN0812S



<b>Test Name:</b>	<b>WCE0812S</b>	
<b>Test Date:</b>	<b>10/12/2007</b>	
<b>Number of Examinees:</b>	<b>15</b>	
<b>Number of Items:</b>	<b>100</b>	
<b>Maximum Possible Points:</b>	<b>100.00</b>	
<b>Highest Score:</b>	<b>90.00</b>	<b>(90.00)</b>
<b>Lowest Score:</b>	<b>57.00</b>	<b>(57.00)</b>
<b>Median:</b>	<b>74.00</b>	<b>(74.00)</b>
<b>Mean:</b>	<b>72.87</b>	<b>(72.87)</b>
<b>Standard Deviation:</b>	<b>11.04</b>	
<b>Test Reliability:</b>	<b>0.88</b>	
<b>Standard Error of Measurement:</b>	<b>3.84</b>	

**MASTERY SUMMARY REPORT**  
California-Nevada Water Treatment Grade I

Test Series: WCN0812S

Version: 0

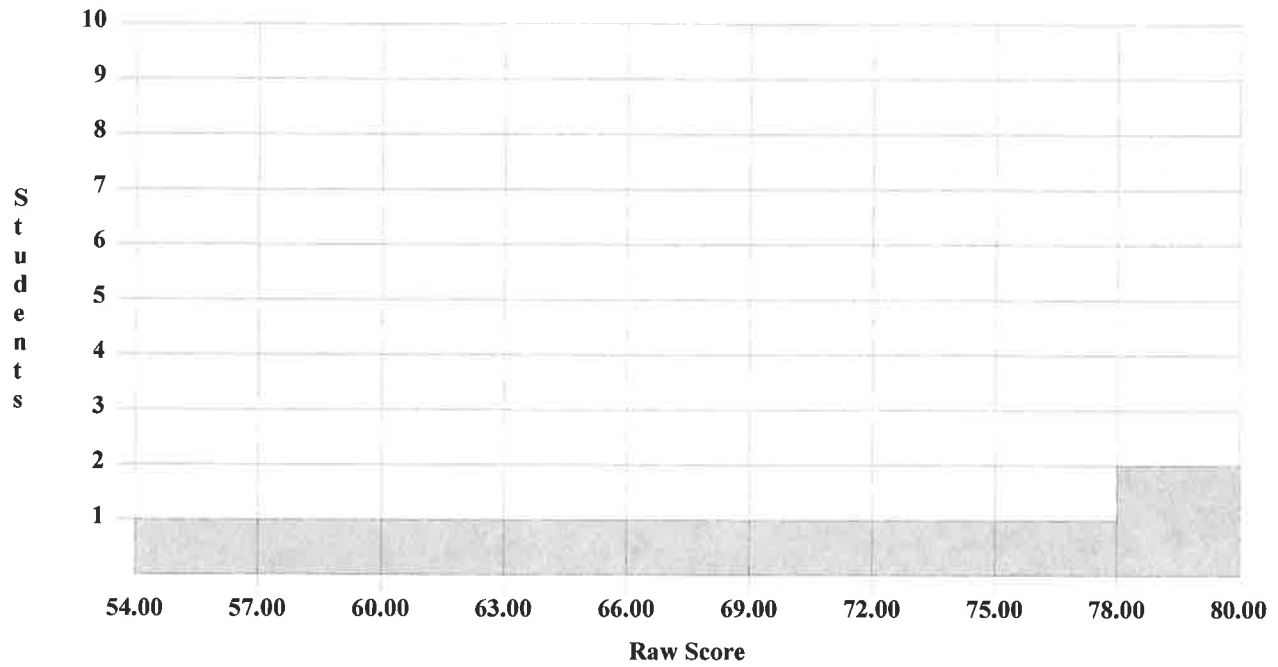
Scoring Date: 3/30/2015

Candidates: 15

# M	Number Mastering	% M	% Mastering				PTS	Possible Points		
# PM	Number Partial Mastering	% PM	% Partial Mastering				HIGH	Highest Points		
# NM	Number Not Mastering	% NM	% Not Mastering				LOW	Lowest Points		
							AVG	Average Points		
Objective	# M	# PM	# NM	% M	% PM	% NM	PTS	HIGH	LOW	AVG
Perform Security, Safety, & Admin	12	3	0	80.00	20.00	0.00	11.00	11.00	6.00	8.73
Laboratory Analyses	8	7	0	53.33	46.67	0.00	16.00	15.00	9.00	12.00
Comply w/ Drinking Water Regs	10	5	0	66.67	33.33	0.00	20.00	18.00	11.00	14.20
Operate & Maintain Equipment	8	7	0	53.33	46.67	0.00	24.00	23.00	12.00	17.07
Eval Characteristics of Source Water	12	3	0	80.00	20.00	0.00	5.00	5.00	3.00	4.27
Monitor, Eval, & Adjust Treatment	8	7	0	53.33	46.67	0.00	24.00	24.00	10.00	16.60

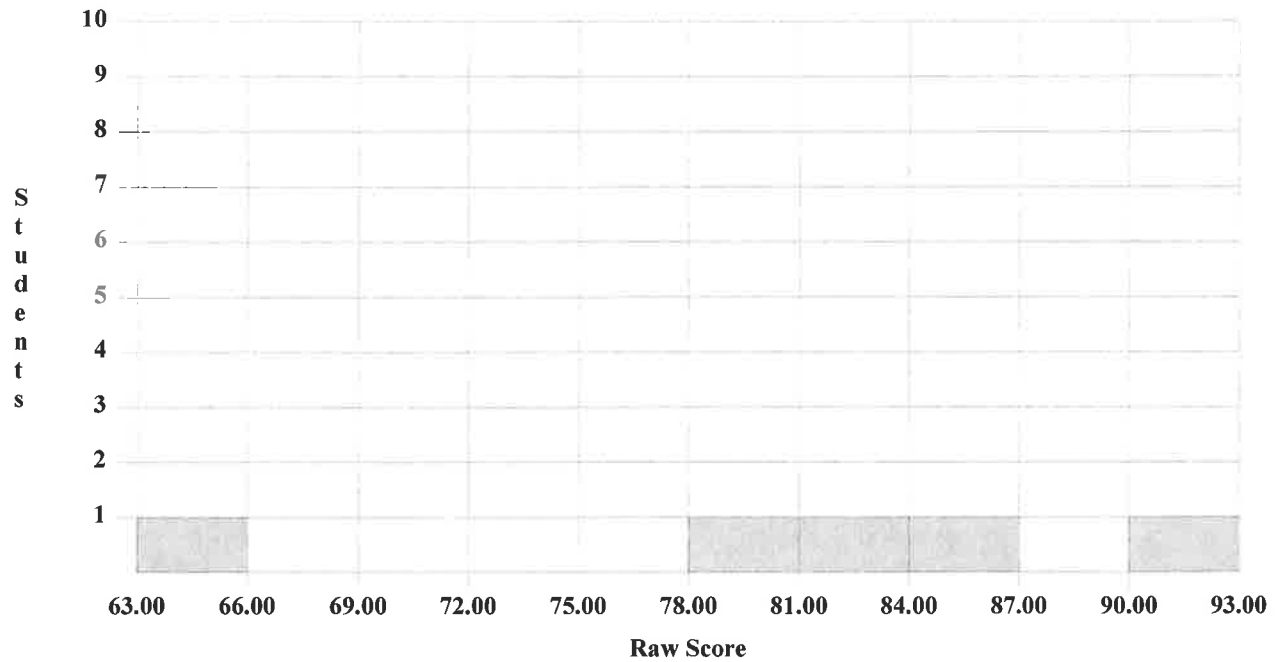


**TEST STATISTICS REPORT**  
**California-Nevada Water Treatment Grade II Exam**  
**WCN0822S**



<b>Test Name:</b>	<b>WCE0822S</b>	
<b>Test Date:</b>	<b>10/12/2007</b>	
<b>Number of Examinees:</b>	<b>10</b>	
<b>Number of Items:</b>	<b>100</b>	
<b>Maximum Possible Points:</b>	<b>100.00</b>	
<b>Highest Score:</b>	<b>80.00</b>	<b>(80.00)</b>
<b>Lowest Score:</b>	<b>54.00</b>	<b>(54.00)</b>
<b>Median:</b>	<b>68.50</b>	<b>(68.50)</b>
<b>Mean:</b>	<b>68.10</b>	<b>(68.10)</b>
<b>Standard Deviation:</b>	<b>9.00</b>	
<b>Test Reliability:</b>	<b>0.78</b>	
<b>Standard Error of Measurement:</b>	<b>4.20</b>	

**TEST STATISTICS REPORT**  
 California-Nevada Water Treatment Grade III Exam  
 WCN0832S



<b>Test Name:</b>	<b>WCE0832S</b>	
<b>Test Date:</b>	<b>10/12/2007</b>	
<b>Number of Examinees:</b>	<b>5</b>	
<b>Number of Items:</b>	<b>100</b>	
<b>Maximum Possible Points:</b>	<b>100.00</b>	
<b>Highest Score:</b>	<b>90.00</b>	<b>(90.00)</b>
<b>Lowest Score:</b>	<b>63.00</b>	<b>(63.00)</b>
<b>Median:</b>	<b>83.00</b>	<b>(83.00)</b>
<b>Mean:</b>	<b>80.00</b>	<b>(80.00)</b>
<b>Standard Deviation:</b>	<b>10.30</b>	
<b>Test Reliability:</b>	<b>0.87</b>	
<b>Standard Error of Measurement:</b>	<b>3.64</b>	

**MASTERY SUMMARY REPORT**  
California-Nevada Water Treatment Grade III

Test Series: WCN0832S

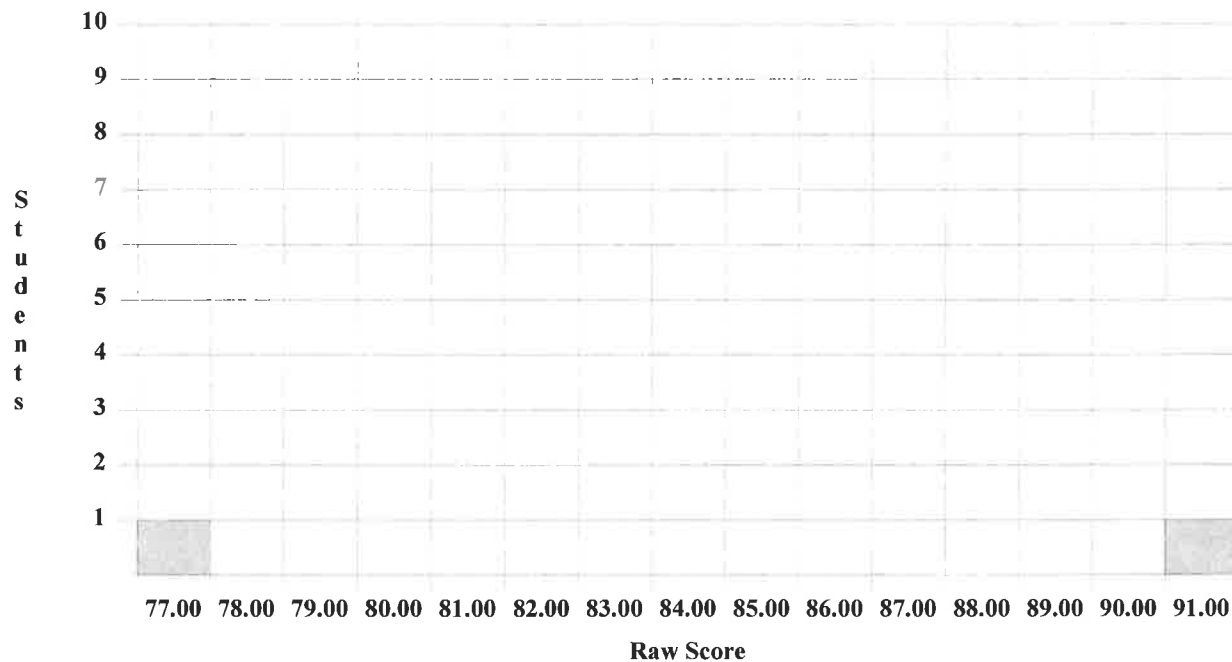
Version: 0

Scoring Date: 3/30/2015

Candidates: 5

# M	Number Mastering	% M	% Mastering				PTS	Possible Points		
# PM	Number Partial Mastering	% PM	% Partial Mastering				HIGH	Highest Points		
# NM	Number Not Mastering	% NM	% Not Mastering				LOW	Lowest Points		
							AVG	Average Points		
Objective	# M	# PM	# NM	% M	% PM	% NM	PTS	HIGH	LOW	AVG
Perform Security, Safety, & Admin	2	3	0	40.00	60.00	0.00	6.00	5.00	3.00	4.20
Laboratory Analyses	5	0	0	100.00	0.00	0.00	16.00	15.00	12.00	13.80
Comply w/ Drinking Water Regs	4	1	0	80.00	20.00	0.00	15.00	14.00	9.00	11.60
Operate & Maintain Equipment	2	3	0	40.00	60.00	0.00	15.00	14.00	7.00	10.60
Eval Characteristics of Source Water	5	0	0	100.00	0.00	0.00	5.00	5.00	4.00	4.80
Monitor, Eval, & Adjust Treatment	4	1	0	80.00	20.00	0.00	43.00	39.00	26.00	35.00

**TEST STATISTICS REPORT**  
 California-Nevada Water Treatment Grade IV Exam  
 WCN0842S



<b>Test Name:</b>	<b>WCE0842S</b>	
<b>Test Date:</b>	<b>10/12/2007</b>	
<b>Number of Examinees:</b>	<b>2</b>	
<b>Number of Items:</b>	<b>100</b>	
<b>Maximum Possible Points:</b>	<b>100.00</b>	
<b>Highest Score:</b>	<b>91.00</b>	<b>(91.00)</b>
<b>Lowest Score:</b>	<b>77.00</b>	<b>(77.00)</b>
<b>Median:</b>	<b>84.00</b>	<b>(84.00)</b>
<b>Mean:</b>	<b>84.00</b>	<b>(84.00)</b>
<b>Standard Deviation:</b>	<b>9.90</b>	
<b>Test Reliability:</b>	<b>0.89</b>	
<b>Standard Error of Measurement:</b>	<b>3.34</b>	

**MASTERY SUMMARY REPORT**  
California-Nevada Water Treatment Grade IV

Test Series: WCN0842S

Version: 0

Scoring Date: 3/30/2015

Candidates: 2

# M	Number Mastering	% M	% Mastering				PTS	Possible Points		
# PM	Number Partial Mastering	% PM	% Partial Mastering				HIGH	Highest Points		
# NM	Number Not Mastering	% NM	% Not Mastering				LOW	Lowest Points		
							AVG	Average Points		
Objective	# M	# PM	# NM	% M	% PM	% NM	PTS	HIGH	LOW	AVG
Perform Security, Safety, & Admin	1	1	0	50.00	50.00	0.00	6.00	6.00	4.00	5.00
Laboratory Analyses	2	0	0	100.00	0.00	0.00	16.00	16.00	15.00	15.50
Comply w/ Drinking Water Regs	2	0	0	100.00	0.00	0.00	15.00	14.00	12.00	13.00
Operate & Maintain Equipment	2	0	0	100.00	0.00	0.00	15.00	13.00	13.00	13.00
Eval Characteristics of Source Water	2	0	0	100.00	0.00	0.00	5.00	5.00	4.00	4.50
Monitor, Eval, & Adjust Treatment	1	1	0	50.00	50.00	0.00	43.00	38.00	28.00	33.00